

REMARKS

Reconsideration of this application, as amended, is requested.

Claims 4 and 7-13 remain under consideration in the application. Claims 1-3 have been withdrawn from consideration in view of the election entered in response to the first Office Action. Claims 5 and 6 have been canceled. Independent claim 4 has been amended to incorporate the limitations that had been in claims 5 and 6 and to define the invention more clearly. Independent claim 9 has been amended to incorporate limitations similar to those added to independent claim 4. All of the remaining claims also have been amended to eliminate the numeric references. Numeric references are not required under U.S. patent law and are given no patentable weight. Accordingly, the amendment to eliminate the numeric references is not a narrowing amendment and is not an amendment entered for purposes of patentability.

The Examiner objected to claim 10 and questioned what structure was intended by the means for generating a biasing force. The means for generating the biasing force may be the resilient seal and/or the gradually increasing air pressure for urging the houses in separating directions at a final stage of the connection of the housings. This aspect of the invention is defined, for example, in paragraphs 0127 and 0128.

The Examiner asked for clarification regarding the structure in claim 13 that causes the resistance on the operable member to decrease suddenly.

The amended claims clearly define the housings as being configured to generate air pressure as the housing approach the fully mated condition. In this regard, the Examiner's attention is directed to FIG. 35. The leading end of the housing 12 moves into a closed space to the right and outward from the resilient seal 123. Air pressure in this

enclosed space increases during the final stage of connection. This increased air pressure combined with the resiliency of the seal 123 urges the housings slightly away from one another. This occurs as the follower pin 17 enters the returning portion 44d of the cam groove 44. Hence, the increased air pressure and the resilient returning forces of the seal urge the housings away from one another. However, at this stage of the connection process, those returning forces function to move the follower pin 17 along the returning section 44d and to the terminus end of 44e of the cam groove 44.

Claims 1-4, 5 and 8-13 were rejected under 35 USC 102(b) as being anticipated by Martin. Martin was cited by the applicants and shows a connector with first and second housings that are connectable to one another. One of the housings has a slider with cam grooves. The opposed housing has follower pins that engage in the cam grooves. Each cam groove has an entry that extends parallel to the connecting direction, an inclined portion aligned at an acute angle to the connecting direction and an end section aligned perpendicular to the connecting direction and parallel to the moving direction of the slider.

In contrast to Martin, the invention defined by the amended claims herein has a returning portion that extends angularly from the end of the inclined portion back towards the front side of the slider. The prior art has no suggestion of this structure. As a result, pulling forces on the wires of the Martin connector or vibration forces exerted on the entire connector can cause the follower pin to translate far enough in the cam groove to enter the inclined portion of the cam groove. The follower pin then can travel through the cam groove to separate the housings. In contrast, the returning section defined by the amended claims herein is angled from the inclined portion back towards the front side of

the movable member. Any forces that might be exerted on the housings in a separating direction will merely urge the follower pin more tightly into the terminus end of the cam groove. In fact, a preferred embodiment of the invention constructs the housing precisely to create such separating forces so that the housing can be locked together more securely. The Martin reference that was cited by the applicant does not suggest this aspect of the invention.

The Examiner asserts that an inner pressure of the inner space of Martin would gradually increase to create a biasing force as shown in FIG. 6 of Martin.

It is submitted that FIG. 6 of Martin clearly show a space between the housing 94 and the receptacle of the housing 20. This space is clearly large enough to permit air to flow from the space. Martin also teaches the use of hydrophobic membrane 122 specifically to permit air to escape from a second enclosed spaced. Thus, contrary to the invention of claims 10-12 herein, Martin specifically designed a connector to avoid a build up of air pressure. Thus, the rejection will require the skilled artisan to ignore the teaching of Martin regarding air pressure and to utilize a build up of air pressure in a unique manner to urge a follower pin tightly into the closed end of the cam groove by angularly aligning the closed end of the cam groove in a retuning direction. There is no such suggestion of this complete redesign in Martin.

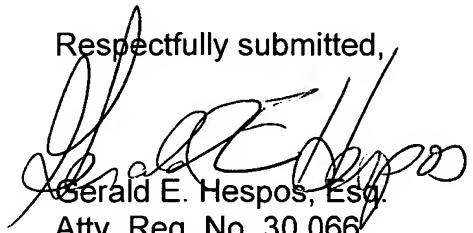
Claims 6-8 were rejected under 35 USC 103(a) as being obvious over Martin in view of Woller et al. The Examiner asserts that Woller et al. show a returning portion at an end of the cam groove that is inclined with respect to an operation direction and an opposite direction to an inclination of a straight portion. The Examiner concludes that it

would be obvious to combine Woller et al. and Martin and that the combination would lead the skilled artisan to the claimed invention.

Woller et al. shows a cam groove with three sections, namely a first section aligned at a steep acute angle to a mating direction, a second section aligned at a less steep acute angle to a mating direction and a third section aligned perpendicular to the mating direction. Neither Woller et al. nor Martin has any suggestion of a returning section that extends back towards the front side of the movable member. This unique construction is believed to be unintuitive. There is nothing that would motivate the skilled artisan to make the cam groove as defined in the amended independent claims, and hence in their dependent claims.

In view of the preceding amendments and remarks, it is submitted that the claims remaining in the application are directed to patentable subject matter, and allowance is solicited. The Examiner is urged to contact applicant's attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,



Gerald E. Hespos, Esq.
Atty. Reg. No. 30,066
Customer No. 001218
CASELLA & HESPOS LLP
274 Madison Avenue - Suite 1703
New York, NY 10016
Tel. (212) 725-2450
Fax (212) 725-2452

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